What is a Rich Task?

A **Rich Task** is a task that explicitly requires students to make sense of mathematics and to make connections between concepts, procedures, problem situations, representations and tools.

A **Rich Task** can be an *open-ended* problem, with a variety of possible solution paths that range from simple to complex.

A **Rich Task** can require justification, where students have to provide reasoning and evaluate the reasoning of others.

A **Rich Task** can include incomplete information, and provide a variety of access points to different students

Rich Tasks depend on several factors:

A **Rich Task** is a task that requires students to move beyond what they already know. What may be rich for a kindergartner is not a rich task for a fifth grader (i.e. If there are 16 people in a room, how many eyes are in the room?)

A **Rich Task** requires a culture of inquiry and persistence.

A **Rich Task** is supported by skillful teaching moves. Alternatively, a rich task can be undermined by teacher moves that remove the demand for student sense-making. (If a teacher tells students what to do too quickly, or does not allow students to make sense of alternative solutions, for instance.)

Why use rich tasks?

A **Rich Task** maintains *academic rigor* in your lessons because there are no obvious procedures to follow or "key words" to clue you into what operation to use. Thinking and application of concepts is required.

A **Rich Task** builds in *differentiation* – both proficient and less proficient students can be challenged and can show success because everyone has access and students can journey very far down conceptual paths.

A **Rich Task** promotes *academic talk* between and among students because it provides important ideas to wrap one's mind around and promotes the capacity to construct a mathematical argument.

A **Rich Task** is *versatile* – Some rich tasks can be used as quick warm up tasks, in independent practice or group work, as a Think-Pair-Share, as a main task or homework task or for assessment.

A **Rich Task** is a highly efficient method of *assessment* of students, either formally or informally and provides ample opportunities for students to represent their mathematical ideas using models and written language.

How to construct Rich Tasks or adapt tasks to "Enrich" them--Some strategies:

Strategy	Less rich task	"Enriched" task
Start with the answer, have students fill in the question	23.05 + 4.7 = 27.75	_____ + _____ = 27.75
Do not supply solution method	Johnny has 12 Jelly beans, He give 5 to Suzy. Draw a picture of Johnny's twelve jelly beans and cross out the five he gave to Suzy. How many does he have left?	Johnny has 12 Jelly beans, He give 5 to Suzy. How many does he have left? Be able to explain how you got your answer
Create a sample answer and ask students to critique it	Which is larger 4/5 or 7/16?	Ralph says that 7/16 is larger than 4/5, because 7 and 16 are bigger than 4 and 5. Do you agree with Ralph? Explain how you know his is right, or what he did wrong.
Can you think of others?		

A few more points to consider:

1. The **quality of the task** determines what is revealed about student understanding.

2. Connecting and carefully sequencing tasks is one way to support student development.

3. Students often need to talk through their ideas before they write about them, or at least have an opportunity to refine their writing once they have talked through their ideas.

3. Highlighting student writing to help students think about the *reader's point of view* is one way to help them **refine** their writing and **develop more sophisticated ways of communicating mathematically.**

*Adapted by Rob Wieman from the work of Rex Boggs and of Antonia Cameron